

WHAT IS CLAIMED IS:

1. An optical transmitter comprising:
an optical conduit having a light output surface;
an optical coupler having a light input surface that is adapted to receive
light from a light source and an optically transparent body that is capable of
5 transmitting said light from said light source to said light conduit whereby light
received from said light source may be transmitted to said light output surface; and
a base adapted for attachment to a circuit board.
2. An optical transmitter according to claim 1, wherein said light source is
a light emitting diode.
3. An optical transmitter according to claim 2, wherein said base is a
sleeve that is disposed around at least a portion of said optical coupler.
4. An optical transmitter according to claim 1, wherein said optical
conduit is a waveguide.
5. An optical transmitter according to claim 1, wherein said optically
transparent body is integral with said light conduit.
6. An optical transmitter according to claim 1, wherein said base is
embedded in said optical coupler.
7. An optical transmitter according to claim 1, wherein said base is
comprised of a metallic substance.

8. An optical transmitter according to claim 1, wherein said base can withstand at least a reflow temperature of a conventional solder.

9. An optical transmitter according to claim 1, wherein said base includes a portion adapted to be receivable by a conventional pick and place apparatus.

10. A light emitting diode device comprising:
a circuit board;
a light emitting diode disposed on said circuit board;
an optical transmitter, said optical transmitter being arranged on said
5 circuit board lateral to said light emitting diode and including a light input surface
arranged to receive light from said light emitting diode; and
a base attached to said light transmitter and said circuit board, whereby
said light transmitter is coupled to said circuit board.

11. A light emitting diode device according to claim 10, wherein said optical transmitter includes a light conduit and a light coupling body, wherein said light input surface is on said light coupling body.

12. A light emitting diode device according to claim 10, wherein said base is comprised of a metallic substance.

13. A light emitting diode device according to claim 10, wherein said base and said light emitting diode are attached to said circuit board by solder.

14. A light emitting diode device according to claim 10, wherein said optical transmitter includes a waveguide integral with a set of optical internally reflective contours.

15. A light emitting diode device according to claim 10, wherein said light input surface is disposed over a light radiating surface of said light emitting diode.

16. A light emitting diode device according to claim 10, wherein said optical transmitter include a recess which receives a portion of said light emitting diode, said light input surface comprising a portion of said recess.

17. A method of manufacturing a light emitting diode device comprising:
providing a circuit board;
providing a light emitting diode;
disposing a first quantity of adhesive on a first portion of said circuit board
5 and a second quantity of adhesive on a second portion of said circuit board;
placing said light emitting diode on said first quantity of adhesive;
providing a light transmitter having a light input surface and a base;
placing said light transmitter on said second quantity of adhesive such that
said base is in contact with said second quantity of adhesive and said light input
10 surface is arranged to receive light from said light emitting diode; and
activating at least said first quantity of adhesive.

18. A method according to claim 17, wherein said first quantity of adhesive and second quantity of adhesive are activated together.

19. A method according to claim 17, wherein said activating step is carried out by application of heat.

20. A method according to claim 17, wherein said first and said second adhesives are comprised of solder.

21. A method according to claim 17, wherein said first and said second adhesives are comprised of a conductive epoxy.

22. A method according to claim 17, wherein said base is comprised of a metallic substance.

23. A method according to claim 17, wherein said base is capable of withstanding at least said activation temperature of said first adhesive.

24. A method according to claim 17, wherein said first and said second adhesives are of the same material and have the same activation temperature.